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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
14821A LANCE MISSILE NO. 3294, ROUND NUMBER 301 APL (5 OCTOBER --ETC(U)  
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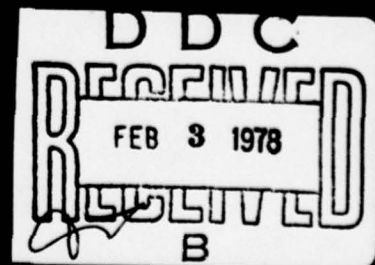


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(9) METEOROLOGICAL DATA REPORT

(6) 14821A LANCE  
MISSILE NO. 3294, ROUND NO. 301 APL  
(5 OCTOBER 1977)

BY

WSMR METEOROLOGICAL TEAM

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WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of 14821A Lance, Missile No. 3294, Round No. 301 APL, are presented in tabular form.		



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## INTRODUCTION

14821A Lance, Missile Number 3294, Round Number 301 APL, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1129 HRS MDT, 5 October 1977. The scheduled launch time was 1115 HRS MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	4,063.75	FEET/MSL
PRESSURE	881.0	MBS
TEMPERATURE	25.0	°C
RELATIVE HUMIDITY	68	%
DEW POINT	18.7	°C
DENSITY	1,021	GM/M <sup>3</sup>
WIND SPEED	03	MPH
WIND DIRECTION	200	DEGREES
CLOUD COVER	5 1 3	Cu Ac Ci

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-39,  
1128 HRS MDT/5 OCTOBER 1977.



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	200	3.0	2100	210	3.5
100	300	0.5	2200	215	4.0
200	330	0.5	2300	210	6.0
300	270	0.5	2400	210	6.5
400	360	1.0	2500	215	6.0
500	185	1.5	2600	235	4.0
600	200	3.5	2700	230	3.5
700	250	1.0	2800	225	4.0
800	295	2.0	2900	285	3.0
900	300	2.0	3000	270	3.5
1000	300	2.0	3100	275	3.0
1100	245	2.0	3200	270	4.5
1200	260	1.5	3300	295	6.0
1300	255	1.0	3400	295	6.0
1400	205	2.5	3500	295	7.0
1500	220	4.5	3600	305	6.5
1600	195	2.0	3700	305	7.5
1700	225	3.0	3800	305	9.0
1800	215	4.0	3900	315	12.0
1900	225	4.0	4000	325	14.0
2000	210	3.0	4100	320	12.0

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 3  
RELEASED FROM LC-39, AT 1123 MDT/5 OCTOBER 1977  
14821A LANCE, MISSILE NO. 3294, ROUND NO. 301 APL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 530,938.82    Y = 186,564.96    Z = 4,063.75

APPROXIMATELY: 1.5 MILES SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	325	11.0
4300	325	10.0
4400	325	10.0
4500	335	11.0
4600	340	12.0
4700	335	10.0
4800	335	10.0
4900	345	10.0
5000	340	9.5
5100	345	11.0
5200	345	9.0
5300	350	10.0
5400	345	10.5
5500	350	10.0
5600	350	10.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	345	9.0
5800	345	6.0
5900	340	7.0
6000	345	7.0
6100	330	6.0
6200	335	7.0
6300	335	6.0
6400	330	4.0
6500	325	3.0
6600	320	3.0
6700	320	3.5
6800	335	4.5
6900	325	3.0
7000	335	3.0

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	200	3.0	2100	240	2.5
100	180	2.5	2200	225	3.0
200	165	4.0	2300	240	4.0
300	190	1.5	2400	215	6.0
400	000	0.0	2500	230	4.0
500	190	2.0	2600	215	4.0
600	160	2.5	2700	230	4.5
700	030	1.0	2800	260	3.5
800	060	1.0	2900	250	4.0
900	130	2.5	3000	270	4.0
1000	175	4.5	3100	285	6.0
1100	175	3.0	3200	290	7.5
1200	190	2.0	3300	305	9.0
1300	195	3.0	3400	315	9.0
1400	210	5.0	3500	315	9.0
1500	215	7.5	3600	310	10.0
1600	300	3.0	3700	310	10.0
1700	295	2.5	3800	315	11.0
1800	245	2.0	3900	315	12.0
1900	290	1.5	4000	320	11.0
2000	305	3.5	4100	315	9.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 4  
RELEASED FROM CL-39, at 1133 MDT/5 OCTOBER 1977  
14821A LANCE, MISSILE NO. 3294, ROUND NO. 301 APL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 530,938.82    Y = 186,564.96    Z = 4,063.75

APPROXIMATELY: 1.5 MILES SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	320	9.0	6600	325	2.0
4300	330	9.0	6700	310	2.5
4400	335	9.0	6800	315	2.0
4500	335	11.0	6900	340	4.0
4600	340	10.0	7000	335	4.0
4700	340	11.0	7100	330	4.0
4800	340	9.0	7200	335	4.5
4900	340	10.0	7300	335	4.0
5000	340	10.0	7400	325	4.5
5100	340	10.0	7500	330	5.0
5200	345	9.0	7600	310	4.5
5300	350	9.0	7700	320	6.0
5400	350	10.0	7800	325	5.0
5500	350	10.0	7900	335	5.0
5600	350	9.0	8000	330	6.0
5700	345	8.0	8100	325	5.5
5800	345	7.0	8200	330	6.0
5900	345	7.0	8300	315	6.0
6000	345	7.0	8400	330	7.0
6100	340	6.5	8500	310	6.0
6200	345	5.0	8600	320	6.0
6300	335	6.0	8700	330	6.5
6400	330	3.0	8800	315	6.0
6500	330	3.5	8900	320	6.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	320	5.0
9100	320	5.0
9200	320	5.5
9300	330	5.0
9400	320	4.0
9500	315	4.0
9600	315	3.5
9700	325	6.0
9800	315	5.0
9900	290	3.5
10000	315	3.0
10100	310	4.0
10200	260	2.5
10300	315	3.0
10400	290	3.5
10500	265	2.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
10600	275	3.5
10700	300	4.5
10800	300	4.0
10900	270	3.0
11000	290	4.0
11100	270	5.5
11200	260	6.0
11300	265	6.5
11400	260	5.5
11500	270	6.0
11600	290	7.5
11700	265	7.0
11800	275	6.5
11900	280	5.5
12000	275	4.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 723

1045 HRS MDT

SIGNIFICANT LEVEL DATA  
2780020723  
WHITE SANDS  
TABLE IV.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
882.8	3989.0	21.1	16.3	74.0
872.8	4317.0	20.0	15.0	73.0
850.0	5064.9	17.5	13.6	78.0
791.8	7047.4	14.1	11.1	82.0
773.8	7685.5	13.9	7.7	66.0
700.0	10438.3	8.8	4.8	76.0
676.8	11353.7	8.0	2.3	67.0
633.8	13118.5	3.5	-1.1	77.0
593.8	14849.2	1.5	-6.3	56.0
576.8	15615.1	.2	-7.3	57.0
568.8	15982.1	-1.1	-12.7	38.0
554.3	16658.3	-1.7	-7.4	65.0
516.8	18475.3	-5.1	-16.9	39.0
500.0	19323.3	-7.1	-17.5	43.0
481.8	20266.9	-9.5	-16.4	57.0
459.8	21446.9	-11.0	-28.0	23.0
447.3	22138.1	-12.8	-30.5	21.0
432.8	22958.8	-14.6	-24.6	42.0
413.8	24068.6	-16.8	-18.8	84.0
400.0	24901.1	-18.3	-23.8	62.0
371.8	26676.5	-21.9	-33.5	34.0
326.3	29776.1	-29.3	-36.8	48.0
315.8	30537.9	-31.2	-40.0	41.0
310.8	30908.0	-31.3	-47.2	19.0
300.0	31726.2	-32.4	-49.6	16.0
250.0	35854.3	-41.4		
234.3	37283.5	-44.9		
200.0	40678.9	-53.5		
150.0	46547.2	-66.7		
119.8	50901.6	-74.8		

STATION ALTITUDE 3989.00 FEET MSL  
 5 OCT. 77 1045 HRS MDT  
 ASCENSION NO. 723

SIGNIFICANT LEVEL DATA  
 2780020723  
 WHITE SANDS  
 TABLE IV. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR	DEWPOINT	
	DEGREES	CENTIGRADE	
112.8 52051.0	-72.4		
100.0 54351.3	-74.6		
70.0 61216.2	-69.1		
63.3 63205.7	-63.4		
54.8 66114.9	-60.6		
50.0 67998.9	-55.4		
43.8 70732.6	-58.5		
39.0 73127.6	-55.6		



STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77 1045 HRS MDT  
ASCENSION NO. 723

UPPER AIR DATA  
2780020723  
WHITE SANDS  
TABLE V.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	882.8	21.1	16.3	74.0	1036.9	670.9	0	0	1.000312
4000.0	882.5	21.1	16.2	74.0	1036.6	670.9	203.0	0	1.000312
4500.0	867.2	19.4	14.7	74.2	1025.1	668.8	203.0	1.0	1.000303
5000.0	852.0	17.7	13.7	77.6	1013.2	666.8	203.0	2.0	1.000296
5500.0	836.9	16.8	13.1	78.9	998.8	665.6	203.0	3.0	1.000291
6000.0	822.0	15.9	12.4	79.9	984.1	664.5	220.5	4.0	1.000285
6500.0	807.5	15.0	11.8	80.9	969.7	663.5	246.9	5.9	1.000279
7000.0	793.1	14.2	11.1	81.9	955.5	662.5	270.1	8.8	1.000274
7500.0	779.0	14.0	8.7	70.7	940.0	661.9	283.3	12.1	1.000261
8000.0	765.0	13.3	7.4	67.1	925.6	661.1	294.1	11.9	1.000254
8500.0	751.2	12.4	6.9	69.0	911.9	660.0	304.5	10.9	1.000249
9000.0	737.6	11.5	6.4	70.8	898.4	658.9	318.0	9.1	1.000245
9500.0	724.3	10.5	5.8	72.6	885.2	657.8	318.6	9.1	1.000241
10000.0	711.3	9.6	5.3	74.4	872.1	656.7	314.8	8.7	1.000237
10500.0	698.4	8.7	4.6	75.4	859.1	655.6	304.3	8.1	1.000232
11000.0	685.7	8.3	3.3	70.5	845.0	655.0	295.3	6.9	1.000225
11500.0	673.1	7.6	2.1	67.8	831.8	654.1	284.1	5.8	1.000219
12000.0	660.7	6.4	1.4	70.7	820.3	652.6	276.0	5.5	1.000216
12500.0	648.6	5.1	.7	73.5	809.0	651.0	267.8	5.3	1.000212
13000.0	636.6	3.8	.0	76.3	797.8	649.5	260.7	5.5	1.000208
13500.0	624.8	3.1	-1.4	72.4	785.3	648.5	261.9	4.4	1.000202
14000.0	613.1	2.5	-3.1	66.3	772.6	647.8	269.9	3.2	1.000196
14500.0	601.7	1.9	-5.0	60.2	760.0	647.0	285.1	3.3	1.000190
15000.0	590.4	1.2	-6.5	56.2	747.8	646.1	285.2	4.6	1.000186
15500.0	579.3	.4	-7.1	56.8	736.1	645.1	280.0	6.9	1.000182
16000.0	568.4	-1.1	-12.5	38.7	724.2	644.2	280.1	7.9	1.000173
16500.0	557.7	-1.3	-8.4	58.7	713.1	643.0	280.1	8.6	1.000176
17000.0	547.0	-2.3	-9.0	60.1	702.2	641.8	278.5	8.3	1.000172
17500.0	536.6	-3.3	-11.5	53.0	691.4	640.6	273.1	8.4	1.000167
18000.0	526.4	-4.2	-14.1	45.8	680.8	639.4	264.6	8.8	1.000162

STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77 1045 HRS MDT  
ASCENSION NO. 723

UPPER AIR DATA  
2780020723  
WHITE SANDS  
TABLE V. (CONT)

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	516.3	-5.2	-16.9	39.1	670.3	638.1	257.6	9.7	1.000158
19000.0	506.3	-6.3	-17.3	41.5	660.3	636.7	252.4	10.7	1.000155
19500.0	496.5	-7.5	-17.2	45.6	650.5	635.3	248.8	11.6	1.000153
20000.0	486.9	-8.8	-16.6	53.0	640.8	633.8	247.6	11.9	1.000152
20500.0	477.4	-9.8	-18.2	50.3	630.7	632.6	248.6	12.5	1.000148
21000.0	468.0	-10.4	-22.6	35.9	620.1	631.7	252.9	13.9	1.000144
21500.0	458.8	-11.1	-28.2	22.8	609.8	630.8	256.4	17.0	1.000139
22000.0	449.8	-12.4	-30.0	21.4	600.7	629.2	258.6	21.0	1.000137
22500.0	440.8	-13.6	-27.3	30.3	591.4	627.8	257.7	24.5	1.000135
23000.0	432.1	-14.7	-24.3	43.6	581.9	626.6	256.3	27.7	1.000134
23500.0	423.4	-15.7	-21.2	62.5	572.3	625.4	252.4	29.6	1.000134
24000.0	415.0	-16.7	-19.1	81.4	562.9	624.3	249.5	31.7	1.000133
24500.0	406.6	-17.6	-21.3	72.6	553.6	623.1	247.8	34.0	1.000130
25000.0	398.4	-18.5	-24.2	60.4	544.5	621.9	247.7	35.1	1.000126
25500.0	390.3	-19.5	-26.7	52.6	535.7	620.6	248.8	35.4	1.000123
26000.0	382.3	-20.5	-29.4	44.7	526.9	619.4	248.7	35.8	1.000121
26500.0	374.5	-21.5	-32.3	36.8	518.3	618.1	248.3	36.2	1.000118
27000.0	366.8	-22.7	-33.7	35.5	509.9	616.7	248.0	35.1	1.000116
27500.0	359.1	-23.9	-34.2	37.7	501.7	615.2	247.6	35.0	1.000114
28000.0	351.6	-25.1	-34.7	40.0	493.6	613.7	247.1	35.8	1.000112
28500.0	344.3	-26.3	-35.2	42.2	485.7	612.2	247.1	38.4	1.000110
29000.0	337.1	-27.4	-35.8	44.5	477.9	610.8	247.5	40.5	1.000108
29500.0	330.1	-28.6	-36.4	46.8	470.2	609.3	248.6	41.1	1.000106
30000.0	323.2	-29.9	-37.7	45.9	462.6	607.7	249.4	41.2	1.000105
30500.0	316.3	-31.1	-39.9	41.3	455.2	606.2	250.0	41.0	1.000103
31000.0	309.6	-31.4	-47.4	18.7	446.1	605.7	251.0	42.2	1.000100
31500.0	302.9	-32.1	-48.9	16.8	437.8	604.9	252.0	43.6	1.000098
32000.0	296.4	-33.0	-50.7	14.9**	429.9	603.7	254.1	47.0	1.000096
32500.0	289.9	-34.1	-52.8	13.0**	422.5	602.4	255.5	50.2	1.000094
33000.0	283.6	-35.2	-55.0	11.1**	415.1	601.0	255.0	52.3	1.000093

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



UPPER AIR DATA  
2780020723  
WHITE SANDS  
TABLE V. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 723  
1045 HRS MDT T

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	277.4	-36.3	9.1**	407.9	599.6	252.7	53.4	1.0000091
34000.0	271.3	-37.4	7.2**	400.9	598.2	247.0	53.3	1.0000089
34500.0	265.4	-38.4	5.2**	393.9	596.8	244.0	54.0	1.0000088
35000.0	259.6	-39.5	3.3**	387.1	595.4	243.2	55.2	1.0000086
35500.0	253.9	-40.6	1.4**	380.5	594.1	244.1	55.4	1.0000085
36000.0	248.4	-41.8		373.9	592.6	245.9	55.1	1.0000083
36500.0	242.8	-43.0		367.5	591.0	246.4	57.2	1.0000082
37000.0	237.3	-44.2		361.1	589.5	246.6	59.8	1.0000080
37500.0	231.9	-45.4		354.9	587.9	247.0	60.7	1.0000079
38000.0	226.6	-46.7		348.6	586.2	247.5	61.2	1.0000078
38500.0	221.4	-48.0		342.5	584.6	247.0	58.7	1.0000076
39000.0	216.3	-49.2		336.5	582.9	246.3	55.8	1.0000075
39500.0	211.3	-50.5		330.6	581.3	247.1	59.1	1.0000074
40000.0	206.4	-51.8		324.9	579.6	247.7	61.7	1.0000072
40500.0	201.7	-53.0		319.2	578.0	247.5	62.0	1.0000071
41000.0	196.9	-54.2		313.3	576.4	247.8	62.3	1.0000070
41500.0	192.1	-55.3		307.3	574.9	249.2	62.7	1.0000068
42000.0	187.5	-56.5		301.4	573.5	251.4	63.0	1.0000067
42500.0	182.9	-57.6		295.6	572.0	254.5	63.6	1.0000066
43000.0	178.5	-58.7		290.0	570.5	255.6	65.2	1.0000065
43500.0	174.2	-59.8		284.4	569.0	255.6	67.4	1.0000063
44000.0	170.0	-61.0		279.0	567.5	256.4	69.8	1.0000062
44500.0	165.8	-62.1		273.7	566.0	257.5	72.3	1.0000061
45000.0	161.8	-63.2		268.5	564.5	258.6	76.6	1.0000060
45500.0	157.9	-64.3		263.4	562.9	259.6	81.5	1.0000059
46000.0	154.1	-65.5		258.5	561.4	259.9	80.7	1.0000058
46500.0	150.3	-66.6		253.6	559.9	260.0	77.3	1.0000056
47000.0	146.5	-67.5		248.3	558.6	260.7	71.2	1.0000055
47500.0	142.8	-68.5		243.0	557.4	262.0	63.6	1.0000054
48000.0	139.2	-69.4		237.9	556.1	261.6	64.0	1.0000053

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 5 OCT. 77  
 ASCENSION NO. 723  
 1045 HRS MDT  
 UPPER AIR DATA  
 2780020723  
 WHITE SANDS  
 TABLE V. (CONT)  
 GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
48500.0	135.6	-70.3		232.9	554.8	260.4	68.0	1.000052
49000.0	132.2	-71.3		228.0	553.5	259.2	68.8	1.000051
49500.0	128.8	-72.2		223.3	552.3	258.1	68.4	1.000050
50000.0	125.5	-73.1		218.6	551.0	258.1	63.8	1.000049
50500.0	122.3	-74.1		214.0	549.7	258.9	56.8	1.000048
51000.0	119.2	-74.6		209.1	549.0	260.3	50.1	1.000047
51500.0	116.1	-73.6		202.6	550.4	262.6	43.7	1.000045
52000.0	113.1	-72.5		196.4	551.8	264.6	39.0	1.000044
52500.0	110.2	-72.8		191.6	551.4	265.7	36.4	1.000043
53000.0	107.3	-73.3		187.1	550.7	266.4	35.1	1.000042
53500.0	104.6	-73.8		182.7	550.1	266.3	35.4	1.000041
54000.0	101.9	-74.3		178.4	549.4	266.3	36.0	1.000040
54500.0	99.2	-74.5		174.0	549.1	266.2	37.1	1.000039
55000.0	96.7	-74.1		169.2	549.7	266.5	37.3	1.000038
55500.0	94.2	-73.7		164.5	550.2	267.3	36.0	1.000037
56000.0	91.8	-73.3		160.0	550.8	268.3	34.5	1.000036
56500.0	89.4	-72.9		155.6	551.3	270.2	30.2	1.000035
57000.0	87.1	-72.5		151.3	551.9	272.9	26.0	1.000034
57500.0	84.9	-72.1		147.1	552.4	276.6	22.1	1.000033
58000.0	82.7	-71.7		143.0	553.0	282.0	18.4	1.000032
58500.0	80.6	-71.3		139.1	553.5	286.4	16.6	1.000031
59000.0	78.5	-70.9		135.3	554.1	289.5	16.1	1.000030
59500.0	76.5	-70.5		131.5	554.6	290.3	15.8	1.000029
60000.0	74.6	-70.1		127.9	555.2	287.2	15.9	1.000028
60500.0	72.7	-69.7		124.4	555.7	283.9	15.6	1.000028
61000.0	70.8	-69.3		121.0	556.3	279.0	12.8	1.000027
61500.0	69.0	-68.3		117.3	557.6	271.4	10.2	1.000026
62000.0	67.3	-66.9		113.6	559.6	261.7	5.7	1.000025
62500.0	65.6	-65.4		110.0	561.5	205.2	2.0	1.000024
63000.0	64.0	-64.0		106.5	563.4	178.4	3.8	1.000024



UPPER AIR DATA  
2780020723  
WHITE SANDS  
TABLE V. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 723  
1045 HRS MDT

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	62.4	-63.1			103.5	564.6		190.2	6.4	1.000023
64000.0	60.9	-62.6			100.7	565.2		200.4	9.4	1.000022
64500.0	59.4	-62.2			98.0	565.9		211.7	13.4	1.000022
65000.0	57.9	-61.7			95.4	566.5		217.7	17.3	1.000021
65500.0	56.5	-61.2			92.9	567.2		224.9	14.7	1.000021
66000.0	55.1	-60.7			90.4	567.8		235.0	12.4	1.000020
66500.0	53.8	-59.5			87.7	569.4		255.0	9.2	1.000020
67000.0	52.5	-58.2			85.1	571.2		291.1	7.7	1.000019
67500.0	51.2	-56.8			82.5	573.1		318.8	6.8	1.000018
68000.0	50.0	-55.4			80.0	574.9		359.3	3.1	1.000018
68500.0	48.8	-56.0			78.3	574.1		75.5	4.5	1.000017
69000.0	47.6	-56.5			76.6	573.4		75.4	2.1	1.000017
69500.0	46.5	-57.1			75.0	572.6		256.9	.2	1.000017
70000.0	45.4	-57.7			73.4	571.9		286.7	2.8	1.000016
70500.0	44.3	-58.2			71.8	571.1		295.7	5.8	1.000016
71000.0	43.2	-58.2			70.1	571.2				1.000016
71500.0	42.2	-57.6			68.2	572.0				1.000015
72000.0	41.2	-57.0			66.4	572.8				1.000015
72500.0	40.2	-56.4			64.6	573.6				1.000014
73000.0	39.2	-55.8			62.9	574.4				1.000014



STATION ALTITUDE 3989.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 723

MANDATORY LEVELS  
2780020723  
WHITE SANDS  
TABLE VI.

GEODETIC COORDINATES  
32.40043 LAT NEG  
106.37033 LON NEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(T)	SPEED KNOTS
850.0	5064.	17.5	13.6	78.	203.0	2.2
800.0	6760.	14.6	11.5	81.	259.2	7.2
750.0	8548.	12.3	6.8	69.	305.7	10.6
700.0	10438.	8.8	4.8	76.	305.6	8.1
650.0	12445.	5.2	.8	73.	268.4	5.3
600.0	14577.	1.8	-5.2	59.	287.7	3.3
550.0	16867.	-2.1	-8.3	62.	278.9	8.4
500.0	19332.	-7.1	-17.5	43.	249.8	11.3
450.0	22000.	-12.4	-29.9	21.	258.7	21.2
400.0	24919.	-18.3	-23.8	62.	247.6	35.0
350.0	28147.	-25.3	-34.8	40.	247.1	36.7
300.0	31759.	-32.4	-49.6	16.	253.3	45.7
250.0	35898.	-41.4			245.7	55.1
200.0	40738.	-53.5			247.3	62.2
175.0	43518.	-59.6			255.6	67.8
150.0	46628.	-66.7			260.1	75.2
125.0	50188.	-73.3			258.6	59.5
100.0	54467.	-74.6			266.2	37.3
80.0	58761.	-71.2			289.0	16.2
70.0	61368.	-69.1			270.5	9.9
60.0	64449.	-62.4			213.8	14.7
50.0	68188.	-55.4			68.0	3.9
40.0	72821.	-56.2				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 219

SIGNIFICANT LEVEL DATA  
2780040219  
STALLION  
TABLE VII.

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
853.2	21.7	60.0
850.0	21.7	54.0
794.3	15.2	78.0
760.3	13.0	65.0
750.3	12.8	51.0
700.0	8.5	54.0
651.3	4.5	67.0
604.3	.5	55.0
586.8	-1.3	62.0
569.8	-3.5	79.0
553.3	-4.7	73.0
526.8	-7.7	87.0
518.3	-8.6	78.0
510.3	-8.3	32.0
500.0	-7.9	24.0
400.0	-21.2	34.0
376.3	-25.4	35.0
345.3	-28.5	30.0
339.3	-29.4	41.0
327.3	-31.5	80.0
308.8	-33.6	28.0
300.0	-35.0	37.0
297.3	-35.6	47.0
280.3	-37.8	42.8
250.0	-43.1	29.0
200.0	-54.7	
150.0	-67.6	
138.3	-71.3	
119.3	-71.3	
100.0	-73.7	

STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77 1129 HRS MDT  
ASCENSION NO. 219

SIGNIFICANT LEVEL DATA  
2780040219  
STALLION  
TABLE VII. (CONT)

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
MILLIBARS	MSL FEET	AIR	DEWPOINT DEGREES CENTIGRADE	
85.3	57121.7	-73.7		
79.8	58406.6	-69.3		
74.3	59796.5	-69.8		
70.0	60967.1	-65.6		
65.5	62283.8	-66.0		
50.0	67729.6	-58.1		
46.8	69093.7	-56.3		
30.0	78336.7	-54.5		
20.0	86875.2	-50.2		
12.5	96996.8	-44.1		



STATION ALTITUDE 4940.00 FEET MSL  
 5 OCT. 77 1129 HRS MDT  
 ASCENSION NO. 219

UPPER AIR DATA  
 2780040219  
 STALLION  
 TABLE VIII.

GEODETIC COORDINATES  
 33.81920 LAT DEG  
 106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
4940.0	853.2	21.7	13.6	60.0	1001.1	671.3	150.0	6.0	1.000291
5000.0	851.5	21.7	12.7	56.8	999.4	671.2	150.2	5.7	1.000297
5500.0	836.6	20.2	12.1	59.6	987.2	669.4	153.8	3.3	1.000292
6000.0	821.9	18.5	12.0	65.9	975.4	667.4	177.6	.9	1.000290
6500.0	807.4	16.8	11.7	72.2	963.9	665.5	310.2	1.8	1.000277
7000.0	793.2	15.1	11.2	77.6	952.4	663.6	319.1	4.2	1.000273
7500.0	779.0	14.2	9.3	72.2	939.0	662.3	342.6	7.6	1.000263
8000.0	765.1	13.3	7.3	66.9	925.7	661.1	353.8	11.9	1.000254
8500.0	751.4	12.8	3.4	52.6	911.8	660.1	346.4	13.8	1.000239
9000.0	737.8	11.8	2.2	51.7	898.8	658.8	338.8	15.2	1.000234
9500.0	724.5	10.6	1.3	52.5	886.2	657.4	329.1	14.2	1.000229
10000.0	711.3	9.5	.5	53.3	873.8	656.1	321.3	12.7	1.000225
10500.0	698.4	8.4	-.3	54.4	861.4	654.7	317.4	9.7	1.000221
11000.0	685.6	7.3	-.4	57.8	848.7	653.5	306.2	7.8	1.000218
11500.0	673.0	6.3	-.6	61.1	836.1	652.3	288.1	8.1	1.000215
12000.0	660.6	5.3	-.9	64.4	823.8	651.1	276.2	8.8	1.000212
12500.0	648.4	4.3	-1.5	66.3	811.6	649.9	269.1	9.5	1.000208
13000.0	636.3	3.3	-3.0	63.3	799.6	648.6	256.8	8.4	1.000202
13500.0	624.4	2.3	-4.6	60.3	787.8	647.4	241.7	7.6	1.000197
14000.0	612.8	1.2	-6.3	57.2	776.1	646.1	237.3	7.7	1.000192
14500.0	601.3	.2	-7.5	56.2	764.7	644.8	235.9	7.7	1.000188
15000.0	590.0	-1.0	-7.6	60.7	753.4	643.4	240.5	7.8	1.000186
15500.0	578.8	-2.3	-7.0	70.0	742.7	641.9	241.5	8.0	1.000184
16000.0	567.8	-3.6	-6.9	78.3	732.1	640.3	239.2	8.3	1.000182
16500.0	556.9	-4.4	-8.3	74.3	720.4	639.3	237.0	9.5	1.000178
17000.0	546.2	-5.5	-8.9	76.7	709.3	638.0	235.3	10.9	1.000174
17500.0	535.6	-6.7	-9.2	82.2	698.8	636.6	238.3	13.3	1.000172
18000.0	525.3	-7.9	-9.9	85.4	688.4	635.2	241.7	15.4	1.000169
18500.0	515.1	-8.5	-14.9	59.7	677.0	634.2	250.5	16.1	1.000161
19000.0	505.1	-8.1	-23.3	28.0	663.4	634.5	258.3	16.7	1.000153

STATION ALTITUDE 4940.00 FEET MSL  
 5 OCT. 77 1129 HRS MDT  
 ASCENSION NO. 219

UPPER AIR DATA  
 2780040219  
 STALLION  
 TABLE VIII. (CONT)

GEODETIC COORDINATES  
 33.81920 LAT DEG  
 106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
19500.0	495.1	-8.5	24.4	651.3	634.0	265.5	16.6	1.000149
20000.0	485.3	-9.7	25.3	641.3	632.5	267.8	16.6	1.000147
20500.0	475.6	-10.9	26.2	631.4	631.1	264.2	16.8	1.000144
21000.0	466.1	-12.1	27.1	621.6	629.6	262.9	17.3	1.000142
21500.0	456.8	-13.3	28.1	612.1	628.2	262.6	18.0	1.000140
22000.0	447.7	-14.5	29.0	602.6	626.7	266.5	19.5	1.000137
22500.0	438.8	-15.7	29.9	593.4	625.2	269.8	21.2	1.000135
23000.0	430.0	-16.9	30.8	584.3	623.8	272.4	23.1	1.000133
23500.0	421.4	-18.1	31.7	575.4	622.3	273.9	25.1	1.000131
24000.0	413.0	-19.3	32.6	566.6	620.8	272.4	27.8	1.000129
24500.0	404.8	-20.5	33.5	557.9	619.4	270.3	30.2	1.000127
25000.0	396.6	-21.8	34.1	549.5	617.8	266.4	32.0	1.000125
25500.0	388.4	-23.2	34.5	541.2	616.0	263.0	33.9	1.000123
26000.0	380.4	-24.7	34.8	533.1	614.2	260.3	35.6	1.000121
26500.0	372.5	-25.8	34.4	524.4	612.8	257.3	37.7	1.000118
27000.0	364.7	-26.5	33.2	515.0	611.9	254.0	40.3	1.000116
27500.0	357.0	-27.3	31.9	505.8	610.9	250.3	43.3	1.000114
28000.0	349.6	-28.1	30.7	496.7	610.0	246.4	46.7	1.000112
28500.0	342.2	-29.0	35.7	488.1	608.8	244.3	49.4	1.000110
29000.0	334.9	-30.2	55.0	480.0	607.4	243.1	51.8	1.000109
29500.0	327.8	-31.4	78.2	472.2	605.8	243.9	52.6	1.000107
30000.0	320.8	-32.2	62.1	463.7	604.8	245.9	52.6	1.000105
30500.0	313.9	-33.0	42.7	455.3	603.8	247.6	53.3	1.000102
31000.0	307.2	-33.9	29.6	447.1	602.7	249.2	54.1	1.000100
31500.0	300.5	-34.9	36.4	439.4	601.4	249.4	56.5	1.000099
32000.0	294.0	-36.0	43.6	431.9	600.0	249.4	59.2	1.000097
32500.0	287.6	-36.8	36.9	423.9	598.9	249.5	61.1	1.000095
33000.0	281.3	-37.7	30.1	416.1	597.9	249.7	63.0	1.000093
33500.0	275.1	-38.7	24.3**	408.7	596.6	249.9	65.1	1.000091
34000.0	269.0	-39.7	18.6**	401.4	595.2	250.2	67.2	1.000090

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77 1129 HRS MDT  
ASCENSION NO. 219

UPPER AIR DATA  
2780040219  
STALLION  
TABLE VIII. (CONT)

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
34500.0	263.0	-40.7	12.9**	394.3	593.9	250.3	69.4	1.000088
35000.0	257.2	-41.8	7.2**	387.3	592.6	250.5	71.6	1.000086
35500.0	251.5	-42.8	1.5**	380.4	591.2	250.3	72.2	1.000085
36000.0	245.8	-44.0		373.6	589.7	250.1	71.8	1.000083
36500.0	240.1	-45.2		366.9	588.2	249.7	72.7	1.000082
37000.0	234.6	-46.4		360.4	586.6	249.3	74.2	1.000080
37500.0	229.2	-47.6		354.0	585.1	248.5	76.3	1.000079
38000.0	223.9	-48.8		347.7	583.5	247.5	78.6	1.000077
38500.0	218.8	-50.0		341.6	581.9	247.2	80.5	1.000076
39000.0	213.7	-51.2		335.5	580.3	247.1	82.1	1.000075
39500.0	208.8	-52.5		329.6	578.7	247.8	83.0	1.000073
40000.0	204.0	-53.7		323.8	577.2	249.0	83.4	1.000072
40500.0	199.3	-54.9		318.0	575.6	250.1	83.2	1.000071
41000.0	194.4	-56.0		311.9	574.1	251.2	82.0	1.000069
41500.0	189.7	-57.1		305.8	572.7	252.4	81.2	1.000068
42000.0	185.1	-58.2		299.9	571.2	253.7	81.6	1.000067
42500.0	180.6	-59.3		294.1	569.7	254.8	82.2	1.000066
43000.0	176.2	-60.4		288.5	568.3	255.4	83.3	1.000064
43500.0	171.9	-61.5		282.9	566.8	255.9	84.4	1.000063
44000.0	167.7	-62.6		277.5	565.3	256.0	85.7	1.000062
44500.0	163.6	-63.7		272.2	563.8	256.0	86.9	1.000061
45000.0	159.5	-64.8		266.9	562.3	256.2	88.0	1.000059
45500.0	155.8	-65.9		261.8	560.8	256.4	89.1	1.000058
46000.0	152.0	-67.0		256.8	559.3	256.7	89.4	1.000057
46500.0	148.2	-68.1		251.8	557.8	257.2	89.2	1.000056
47000.0	144.5	-69.3		246.9	556.2	257.5	88.4	1.000055
47500.0	140.8	-70.5		242.0	554.6	257.6	86.6	1.000054
48000.0	137.2	-71.3		236.8	553.5	257.7	84.2	1.000053
48500.0	133.7	-71.3		230.8	553.5	258.0	80.4	1.000051
49000.0	130.3	-71.3		224.9	553.5	258.3	76.5	1.000050

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4940.00 FEET MSL  
 5 OCT. 77 1129 HRS MDT  
 ASCENSION NO. 219

UPPER AIR DATA  
 2780040219  
 STALLION  
 TABLE VIII. (CONT)

GEODETIC COORDINATES  
 33.81920 LAT NEG  
 106.66501 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			DIRECTION DEGREES(TN)	SPEED KNOTS			
49500.0	127.0	-71.3			219.1	553.5	259.6	71.3	1.000049	
50000.0	123.7	-71.3			213.5	553.5	261.2	65.9	1.000048	
50500.0	120.6	-71.3			208.1	553.5	263.1	61.3	1.000046	
51000.0	117.5	-71.5			202.9	553.2	265.3	57.8	1.000045	
51500.0	114.4	-71.9			198.1	552.7	267.1	54.7	1.000044	
52000.0	111.5	-72.2			193.3	552.2	267.6	52.5	1.000043	
52500.0	108.6	-72.6			188.7	551.7	268.0	50.2	1.000042	
53000.0	105.8	-72.9			184.1	551.3	268.0	47.2	1.000041	
53500.0	103.1	-73.3			179.7	550.8	267.9	44.1	1.000040	
54000.0	100.5	-73.6			175.4	550.3	268.2	41.1	1.000039	
54500.0	97.9	-73.7			170.9	550.2	268.7	38.0	1.000038	
55000.0	95.3	-73.7			166.5	550.2	268.9	35.5	1.000037	
55500.0	92.9	-73.7			162.2	550.2	268.9	33.6	1.000036	
56000.0	90.5	-73.7			158.0	550.2	268.9	31.6	1.000035	
56500.0	88.1	-73.7			153.9	550.2	268.6	29.3	1.000034	
57000.0	85.8	-73.7			149.9	550.2	268.2	27.1	1.000033	
57500.0	83.6	-72.4			145.1	552.0	267.8	24.4	1.000032	
58000.0	81.5	-70.7			140.2	554.3	267.4	21.8	1.000031	
58500.0	79.4	-69.3			135.7	556.2	267.6	19.3	1.000030	
59000.0	77.4	-69.5			132.4	555.9	269.1	17.2	1.000029	
59500.0	75.4	-69.7			129.2	555.7	271.1	15.1	1.000029	
60000.0	73.5	-69.1			125.5	556.5	275.6	13.4	1.000028	
60500.0	71.7	-67.3			121.3	559.0	281.2	11.8	1.000027	
61000.0	69.9	-65.6			117.3	561.2	282.8	10.3	1.000026	
61500.0	68.1	-65.8			114.5	561.0	281.1	8.9	1.000025	
62000.0	66.4	-65.9			111.7	560.8	276.9	7.7	1.000025	
62500.0	64.8	-65.7			108.8	561.1	265.0	7.3	1.000024	
63000.0	63.2	-65.0			105.8	562.1	252.5	7.3	1.000024	
63500.0	61.7	-64.2			102.8	563.1	249.8	7.6	1.000023	
64000.0	60.2	-63.5			100.0	564.1	248.1	7.9	1.000022	



STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77 1129 HRS MDT  
ASCENSION NO. 219

UPPER AIR DATA  
2780040219  
STALLION  
TABLE VIII. (CONT)

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
64500.0	58.7	-62.8			97.2	565.0	250.7	7.7	1.000022
65000.0	57.2	-62.1			94.5	566.0	256.8	7.4	1.000021
65500.0	55.8	-61.3			91.8	567.0	263.2	7.1	1.000020
66000.0	54.5	-60.6			89.3	568.0	269.2	7.2	1.000020
66500.0	53.1	-59.9			86.8	568.9	275.0	7.3	1.000019
67000.0	51.8	-59.2			84.4	569.9	282.7	6.5	1.000019
67500.0	50.6	-58.4			82.1	570.9	292.9	5.7	1.000018
68000.0	49.3	-57.7			79.8	571.8	300.9	5.3	1.000018
68500.0	48.2	-57.1			77.7	572.7	305.1	5.1	1.000017
69000.0	47.0	-56.4			75.6	573.5	310.3	4.9	1.000017
69500.0	45.9	-56.2			73.7	573.8	330.1	4.0	1.000016
70000.0	44.8	-56.1			71.9	573.9	356.0	3.8	1.000016
70500.0	43.7	-56.0			70.2	574.0	19.2	4.4	1.000016
71000.0	42.7	-55.9			68.5	574.2	34.1	5.7	1.000015
71500.0	41.7	-55.8			66.8	574.3	42.9	6.9	1.000015
72000.0	40.7	-55.7			65.2	574.4	46.8	6.2	1.000015
72500.0	39.7	-55.6			63.6	574.6	51.6	5.6	1.000014
73000.0	38.8	-55.5			62.1	574.7	57.9	6.0	1.000014
73500.0	37.9	-55.4			60.6	574.8	62.7	7.8	1.000013
74000.0	37.0	-55.3			59.1	574.9	65.6	9.8	1.000013
74500.0	36.1	-55.2			57.7	575.1	73.3	11.0	1.000013
75000.0	35.2	-55.1			56.3	575.2	82.4	12.2	1.000013
75500.0	34.4	-55.1			54.9	575.3	89.9	13.6	1.000012
76000.0	33.6	-55.0			53.6	575.5	97.5	13.4	1.000012
76500.0	32.8	-54.9			52.3	575.6	105.4	13.4	1.000012
77000.0	32.0	-54.8			51.0	575.7	112.2	13.3	1.000011
77500.0	31.2	-54.7			49.8	575.8	113.6	12.2	1.000011
78000.0	30.5	-54.6			48.6	576.0	115.3	11.2	1.000011
78500.0	29.8	-54.4			47.4	576.2	116.7	10.7	1.000011
79000.0	29.1	-54.2			46.2	576.5	117.3	11.1	1.000010



STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77 1129 HRS MDT  
ASCENSION NO. 219

UPPER AIR DATA  
2780040219  
STALLION  
TABLE VIII. (CONT)

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
79500.0	28.4	-53.9		45.1	576.8	117.8	11.4	1.000010
80000.0	27.7	-53.7		44.0	577.2	116.4	11.9	1.000010
80500.0	27.1	-53.4		42.9	577.5	113.8	12.4	1.000010
81000.0	26.4	-53.2		41.9	577.8	111.4	12.9	1.000009
81500.0	25.8	-52.9		40.8	578.2	110.0	13.4	1.000009
82000.0	25.2	-52.7		39.8	578.5	108.9	13.9	1.000009
82500.0	24.6	-52.4		38.9	578.8	107.9	14.4	1.000009
83000.0	24.0	-52.2		37.9	579.1	104.8	14.7	1.000008
83500.0	23.5	-51.9		37.0	579.5	101.3	15.0	1.000008
84000.0	22.9	-51.6		36.1	579.8	97.9	15.3	1.000008
84500.0	22.4	-51.4		35.2	580.1	97.8	15.2	1.000008
85000.0	21.9	-51.1		34.3	580.5	97.8	15.1	1.000008
85500.0	21.3	-50.9		33.5	580.8	98.0	15.0	1.000007
86000.0	20.8	-50.6		32.6	581.1	99.6	15.6	1.000007
86500.0	20.4	-50.4		31.8	581.5	101.2	16.1	1.000007
87000.0	19.9	-50.1		31.1	581.8	102.6	16.4	1.000007
87500.0	19.4	-49.8		30.3	582.2	103.8	15.7	1.000007
88000.0	19.0	-49.5		29.6	582.6	105.1	15.0	1.000007
88500.0	18.5	-49.2		28.9	583.0	105.7	14.1	1.000006
89000.0	18.1	-48.9		28.2	583.4	103.4	12.5	1.000006
89500.0	17.7	-48.6		27.5	583.8	100.3	10.9	1.000006
90000.0	17.3	-48.3		26.8	584.2	96.9	9.6	1.000006
90500.0	16.9	-48.0		26.2	584.5	94.8	9.2	1.000006
91000.0	16.5	-47.7		25.5	584.9	92.5	8.8	1.000006
91500.0	16.1	-47.4		24.9	585.3	89.9	8.4	1.000006
92000.0	15.8	-47.1		24.3	585.7	89.7	8.1	1.000005
92500.0	15.4	-46.8		23.7	586.1	93.4	7.9	1.000005
93000.0	15.0	-46.5		23.1	586.5	97.2	7.8	1.000005
93500.0	14.7	-46.2		22.6	586.9	101.1	7.7	1.000005
94000.0	14.4	-45.9		22.0	587.3			1.000005

STATION ALTITUDE 4940.00 FEET MSL  
 5 OCT. 77 1129 HRS MDT  
 ASCENSION NO. 219

UPPER AIR DATA  
 2780040219  
 STALLION  
 TABLE VIII. (CONT)

GEODETTIC COORDINATES  
 33.81920 LAT DEG  
 106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
94500.0	14.0	-45.6		21.5	587.7			1.0000005
95000.0	13.7	-45.3		21.0	588.1			1.0000005
95500.0	13.4	-45.0		20.5	588.4			1.0000005
96000.0	13.1	-44.7		20.0	588.8			1.0000004
96500.0	12.8	-44.4		19.5	589.2			1.0000004

STATION ALTITUDE 4940.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 219

MANDATORY LEVELS  
2780040219  
STALLION  
TABLE IX.

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		RFL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5050.	21.7	12.0	54.	150.5	5.5
800.0	6762.	15.9	11.6	75.	316.7	3.1
750.0	8553.	12.8	2.9	51.	345.5	14.0
700.0	10441.	8.5	-3	54.	317.9	10.0
650.0	12438.	4.4	-1.2	67.	269.8	9.4
600.0	14563.	.1	-7.5	57.	236.6	7.7
550.0	16829.	-5.1	-8.8	75.	235.8	10.5
500.0	19267.	-7.9	-24.9	24.	262.4	16.6
450.0	21923.	-14.2	-28.4	29.	266.1	19.4
400.0	24816.	-21.2	-32.8	34.	267.6	31.5
350.0	27999.	-28.0	-39.9	31.	246.1	47.0
300.0	31578.	-35.0	-44.5	37.	249.4	57.1
250.0	35681.	-43.1			250.2	72.0
200.0	40490.	-54.7			250.2	83.1
175.0	43255.	-60.7			255.8	84.1
150.0	46351.	-67.6			257.2	89.2
125.0	49902.	-71.3			261.3	65.6
100.0	54210.	-73.7			268.5	39.0
80.0	58500.	-69.5			268.0	18.6
70.0	61123.	-65.6			281.8	9.5
60.0	64204.	-63.4			249.6	7.8
50.0	67925.	-58.1			302.1	5.3
40.0	72574.	-55.7			55.4	5.3
30.0	78603.	-54.5			117.2	11.0
25.0	82451.	-52.6			106.3	14.6
20.0	87206.	-50.2			104.0	15.6
15.0	93422.	-46.5				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4051.00 FEET MSL  
5 OCT. 77  
ASCENSION NO. 382

SIGNIFICANT LEVEL DATA  
2780030382  
JALLEN  
TABLE X.

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR	DEWPOINT DEGREES	REL. HUM. PERCENT
MILLIBARS	MSL FEET	DEGREES	CENTIGRADE	
880.4	4051.0	22.4	12.9	55.0
850.0	5053.8	19.5	11.3	59.0
817.1	6164.4	16.2	11.4	73.0
788.3	7165.5	14.8	9.8	72.0
755.3	8354.3	14.6	5.7	55.0
700.0	10446.2	9.7	.1	51.0
618.3	13793.7	4.5	-14.8	23.0
500.0	19339.4	-7.4	-14.9	55.0
467.3	21057.4	-10.0	-26.7	24.0
438.3	22663.2	-14.0	-38.9	10.0
400.0	24915.0	-18.9	-42.8	10.0
349.3	28175.6	-25.7	-48.2	10.0
343.3	28586.0	-26.6	-40.2	26.0
341.3	28724.1	-27.0	-33.3	55.0
336.8	29036.8	-27.9	-33.1	61.0
312.3	30800.0	-31.5	-43.9	28.0
308.1	31113.6	-31.5	-49.4	15.0
300.0	31728.6	-33.2		
250.0	35846.6	-41.7		
200.0	40674.0	-52.9		
150.0	46568.0	-65.4		
124.3	50252.1	-71.2		
114.3	51878.2	-69.8		
100.0	54463.8	-72.0		
70.0	61411.8	-66.8		
50.0	68217.4	-56.1		
30.0	78860.3	-53.7		
20.0	87447.2	-48.5		
13.8	95444.2	-45.5		

UPPER AIR DATA  
2780030382  
JALLEN  
TABLE XI. (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
5 OCT. 77 1130 HRS MDT  
ASCENSION NO. 382

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.0	880.4	22.4	55.0	1031.1	671.9	120.0	1.9	1.000295
4500.0	866.7	21.1	56.8	1019.7	670.4	110.0	1.2	1.000290
5000.0	851.6	19.7	58.8	1007.1	668.6	69.4	.6	1.000284
5500.0	836.6	18.2	64.6	994.3	667.0	355.8	.8	1.000282
6000.0	821.9	16.7	70.9	981.7	665.3	335.3	1.6	1.000280
6500.0	807.3	15.7	72.7	967.6	664.2	351.7	3.0	1.000275
7000.0	793.0	15.0	72.2	953.0	663.3	358.6	4.6	1.000269
7500.0	778.9	14.7	67.2	937.3	662.8	2.6	6.4	1.000260
8000.0	765.0	14.7	60.1	921.4	662.6	4.6	8.1	1.000251
8500.0	751.3	14.3	54.7	906.6	661.9	4.5	8.3	1.000243
9000.0	737.8	13.1	53.8	894.2	660.5	3.9	8.4	1.000237
9500.0	724.5	11.9	52.8	882.0	659.0	356.2	7.0	1.000231
10000.0	711.4	10.7	51.9	869.9	657.6	344.7	5.9	1.000225
10500.0	698.6	9.6	50.5	857.9	656.2	330.9	6.1	1.000220
11000.0	685.8	8.8	46.4	844.7	655.2	320.1	6.4	1.000213
11500.0	673.2	8.1	42.2	831.8	654.1	313.1	6.0	1.000207
12000.0	660.8	7.3	38.0	819.1	653.1	302.6	5.3	1.000201
12500.0	648.7	6.5	33.8	806.5	652.1	284.0	4.5	1.000196
13000.0	636.8	5.7	29.6	794.1	651.1	274.4	4.3	1.000190
13500.0	625.1	5.0	25.5	781.9	650.1	272.5	4.3	1.000185
14000.0	613.4	4.1	24.2	770.0	649.0	277.8	3.7	1.000181
14500.0	601.8	3.0	27.1	758.2	647.8	289.5	2.9	1.000179
15000.0	590.4	1.9	30.0	746.7	646.5	280.6	2.5	1.000177
15500.0	579.2	.8	32.8	735.4	645.3	261.6	2.4	1.000175
16000.0	568.2	-.2	35.7	724.3	644.0	239.2	3.9	1.000172
16500.0	557.4	-1.3	38.6	713.3	642.8	229.8	5.9	1.000170
17000.0	546.9	-2.4	41.5	702.5	641.5	243.7	8.6	1.000168
17500.0	536.5	-3.5	44.4	692.0	640.3	251.4	11.7	1.000165
18000.0	526.3	-4.5	47.3	681.5	639.0	257.5	14.7	1.000163
18500.0	516.3	-5.6	50.2	671.3	637.7	260.9	17.5	1.000160



STATION ALTITUDE 4051.00 FEET MSL  
5 OCT. 77 1130 HRS MDT  
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UPPER AIR DATA  
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TABLE XI. (CONT)

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
19000.0	506.5	-6.7	-14.6	53.0	661.2	636.4		259.8	17.6	1.000158
19500.0	496.8	-7.6	-15.7	52.1	651.0	635.2		258.5	17.6	1.000155
20000.0	487.2	-8.4	-18.7	43.1	640.3	634.2		256.5	16.8	1.000150
20500.0	477.7	-9.2	-22.1	34.1	629.8	633.2		255.4	16.1	1.000146
21000.0	468.4	-9.9	-26.1	25.0	619.5	632.3		256.6	15.2	1.000142
21500.0	459.1	-11.1	-29.5	20.1	610.1	630.8		260.4	14.8	1.000139
22000.0	450.1	-12.3	-33.0	15.8	601.0	629.2		266.7	15.1	1.000136
22500.0	441.2	-13.6	-37.3	11.4	592.0	627.7		269.0	16.5	1.000133
23000.0	432.3	-14.7	-39.5	10.0	582.7	626.3		269.3	18.4	1.000131
23500.0	423.7	-15.8	-40.3	10.0	573.4	625.0		265.7	20.1	1.000129
24000.0	415.1	-16.9	-41.2	10.0	564.3	623.7		262.0	21.8	1.000127
24500.0	406.8	-18.0	-42.1	10.0	555.3	622.3		258.2	23.3	1.000125
25000.0	398.6	-19.1	-42.9	10.0	546.4	621.0		254.8	24.9	1.000123
25500.0	390.4	-20.1	-43.7	10.0	537.4	619.7		251.7	29.4	1.000120
26000.0	382.4	-21.2	-44.6	10.0	528.5	618.5		249.4	34.4	1.000118
26500.0	374.5	-22.2	-45.4	10.0	519.8	617.2		247.7	37.1	1.000116
27000.0	366.8	-23.2	-46.2	10.0	511.3	615.9		246.3	39.3	1.000114
27500.0	359.2	-24.3	-47.1	10.0	502.9	614.6		246.3	40.4	1.000113
28000.0	351.9	-25.3	-47.9	10.0	494.6	613.3		246.8	40.9	1.000111
28500.0	344.5	-26.4	-41.4	22.6	486.4	612.0		246.8	41.8	1.000109
29000.0	337.3	-27.8	-33.1	60.3	478.7	610.4		246.6	42.8	1.000109
29500.0	330.2	-28.8	-35.5	52.3	470.7	609.0		245.6	44.1	1.000107
30000.0	323.2	-29.9	-38.4	43.0	462.7	607.7		244.4	45.4	1.000104
30500.0	316.3	-30.9	-41.6	33.6	454.8	606.4		244.6	46.8	1.000102
31000.0	309.6	-31.5	-47.0	19.7	446.3	605.6		245.7	48.2	1.000100
31500.0	303.0	-32.6	-58.4	5.6**	438.7	604.3		247.4	49.5	1.000098
32000.0	296.4	-33.8			431.4	602.8		250.0	50.6	1.000096
32500.0	289.9	-34.8			423.7	601.5		252.4	52.2	1.000094
33000.0	283.6	-35.8			416.3	600.2		254.1	56.0	1.000093
33500.0	277.4	-36.9			408.9	598.9		255.5	59.9	1.000091

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4051.00 FEET MSL  
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UPPER AIR DATA  
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 TABLE XI. (CONT)

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
34000.0	271.3	-37.9		401.7	597.5	254.9	62.1	1.0000A9
34500.0	265.4	-38.9		394.7	596.2	254.0	64.0	1.0000A8
35000.0	259.5	-40.0		387.7	594.9	252.4	66.0	1.0000A6
35500.0	253.9	-41.0		380.9	593.6	250.2	68.2	1.0000A5
36000.0	248.2	-42.1		374.2	592.2	248.5	69.8	1.0000A3
36500.0	242.6	-43.2		367.5	590.7	247.2	70.2	1.0000A2
37000.0	237.0	-44.4		360.9	589.2	246.1	70.7	1.0000A0
37500.0	231.6	-45.5		354.5	587.8	245.6	71.3	1.000079
38000.0	226.3	-46.7		348.1	586.3	245.2	72.0	1.000078
38500.0	221.1	-47.9		341.9	584.7	245.2	73.5	1.000076
39000.0	216.1	-49.0		335.9	583.2	245.3	75.0	1.000075
39500.0	211.2	-50.2		329.9	581.7	246.0	74.1	1.000073
40000.0	206.3	-51.3		324.0	580.2	247.0	72.5	1.000072
40500.0	201.6	-52.5		318.3	578.7	248.1	71.3	1.000071
41000.0	196.8	-53.6		312.3	577.3	249.3	70.7	1.000070
41500.0	192.1	-54.7		306.3	575.9	250.4	70.7	1.000068
42000.0	187.5	-55.7		300.3	574.5	251.3	73.1	1.000067
42500.0	182.9	-56.8		294.5	573.1	252.2	75.6	1.000066
43000.0	178.5	-57.8		288.9	571.7	253.3	76.9	1.000064
43500.0	174.2	-58.9		283.3	570.2	254.6	78.0	1.000063
44000.0	170.0	-60.0		277.8	568.8	255.7	78.4	1.000062
44500.0	165.9	-61.0		272.5	567.4	256.5	77.6	1.000061
45000.0	161.9	-62.1		267.3	566.0	257.4	76.8	1.000060
45500.0	158.0	-63.1		262.1	564.6	257.2	78.3	1.000058
46000.0	154.2	-64.2		257.1	563.1	257.0	79.8	1.000057
46500.0	150.5	-65.3		252.2	561.7	257.0	80.5	1.000056
47000.0	146.7	-66.1		246.9	560.6	257.1	80.2	1.000055
47500.0	143.0	-66.9		241.6	559.5	257.3	80.0	1.000054
48000.0	139.4	-67.7		236.4	558.5	257.7	80.5	1.000053
48500.0	135.9	-68.4		231.3	557.4	258.1	81.1	1.000052

STATION ALTITUDE 4051.00 FEET MSL  
 5 OCT. 77  
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 2780030382  
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 TABLE XI. (CONT)  
 GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
49000.0	132.5	-69.2		226.4	556.3	258.6	79.6	1.000050
49500.0	129.2	-70.0		221.5	555.2	259.3	72.1	1.000049
50000.0	125.9	-70.8		216.8	554.2	260.1	64.5	1.000048
50500.0	122.7	-71.0		211.5	553.9	261.2	57.1	1.000047
51000.0	119.6	-70.6		205.6	554.5	262.6	49.8	1.000046
51500.0	116.6	-70.1		200.0	555.1	264.1	44.1	1.000045
52000.0	113.6	-69.9		194.7	555.4	264.5	43.6	1.000043
52500.0	110.7	-70.3		190.1	554.8	264.9	43.2	1.000042
53000.0	107.9	-70.8		185.6	554.2	265.7	41.2	1.000041
53500.0	105.1	-71.2		181.3	553.7	267.0	38.1	1.000040
54000.0	102.4	-71.6		177.0	553.1	268.5	35.0	1.000039
54500.0	99.8	-72.0		172.8	552.6	269.1	34.1	1.000038
55000.0	97.3	-71.6		168.1	553.1	269.6	33.7	1.000037
55500.0	94.8	-71.2		163.6	553.6	270.1	33.3	1.000036
56000.0	92.4	-70.9		159.1	554.1	271.0	32.0	1.000035
56500.0	90.1	-70.5		154.8	554.6	272.1	30.5	1.000034
57000.0	87.8	-70.1		150.6	555.1	273.3	29.0	1.000034
57500.0	85.6	-69.7		146.5	555.6	275.3	26.1	1.000033
58000.0	83.4	-69.4		142.6	556.2	277.7	23.3	1.000032
58500.0	81.3	-69.0		138.7	556.7	279.4	21.0	1.000031
59000.0	79.2	-68.6		134.9	557.2	278.4	19.5	1.000030
59500.0	77.2	-68.2		131.3	557.7	277.1	18.0	1.000029
60000.0	75.3	-67.9		127.7	558.2	275.8	16.5	1.000028
60500.0	73.4	-67.5		124.2	558.7	274.4	15.0	1.000028
61000.0	71.5	-67.1		120.9	559.2	272.6	13.5	1.000027
61500.0	69.7	-66.7		117.6	559.8	269.6	12.1	1.000026
62000.0	68.0	-65.9		114.3	560.9	265.2	11.1	1.000025
62500.0	66.3	-65.1		111.1	561.9	259.9	10.1	1.000025
63000.0	64.7	-64.3		107.9	563.0	254.5	8.0	1.000024
63500.0	63.1	-63.5		104.9	564.1	245.2	3.9	1.000023



STATION ALTITUDE 4051.00 FEET MSL  
5 OCT. 77 1130 HRS MDT  
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UPPER AIR DATA  
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JALLEN  
TABLE XI. (CONT)

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
64000.0	61.6	-62.7		102.0	565.1	146.5	1.3	1.000023
64500.0	60.1	-61.9		99.1	566.2	94.9	4.8	1.000022
65000.0	58.6	-61.2		96.3	567.2	86.3	8.6	1.000021
65500.0	57.2	-60.4		93.6	568.3	83.0	12.4	1.000021
66000.0	55.8	-59.6		91.0	569.3	90.9	4.0	1.000020
66500.0	54.4	-58.8		88.5	570.4	252.3	7.0	1.000020
67000.0	53.1	-58.0		86.0	571.4	255.8	15.6	1.000019
67500.0	51.8	-57.2		83.6	572.5	255.7	18.9	1.000019
68000.0	50.5	-56.4		81.2	573.5	255.7	22.2	1.000018
68500.0	49.3	-56.0		79.1	574.0	255.7	19.6	1.000018
69000.0	48.2	-55.9		77.2	574.2	255.7	15.1	1.000017
69500.0	47.0	-55.8		75.4	574.3	255.8	10.6	1.000017
70000.0	45.9	-55.7		73.5	574.5	262.9	9.1	1.000016
70500.0	44.8	-55.6		71.8	574.6	273.0	8.9	1.000016
71000.0	43.7	-55.5		70.0	574.8	283.2	9.0	1.000016
71500.0	42.7	-55.4		68.3	574.9	285.9	9.6	1.000015
72000.0	41.7	-55.2		66.7	575.1	283.2	10.5	1.000015
72500.0	40.7	-55.1		65.0	575.2	280.9	11.4	1.000014
73000.0	39.7	-55.0		63.5	575.4	280.7	11.1	1.000014
73500.0	38.8	-54.9		61.9	575.5	284.5	8.7	1.000014
74000.0	37.9	-54.8		60.4	575.7	291.2	6.3	1.000013
74500.0	37.0	-54.7		59.0	575.8	324.2	3.5	1.000013
75000.0	36.1	-54.6		57.5	576.0	56.5	9.5	1.000013
75500.0	35.3	-54.5		56.2	576.1	66.7	19.5	1.000013
76000.0	34.4	-54.3		54.8	576.3	70.0	29.7	1.000012
76500.0	33.6	-54.2		53.5	576.4	69.6	28.4	1.000012
77000.0	32.8	-54.1		52.2	576.6	68.8	25.7	1.000012
77500.0	32.0	-54.0		50.9	576.7	67.9	23.1	1.000011
78000.0	31.3	-53.9		49.7	576.9	65.9	16.4	1.000011
78500.0	30.5	-53.8		48.5	577.0	57.5	6.7	1.000011



STATION ALTITUDE 4051.00 FEET MSL  
5 OCT. 77 1130 HRS MDT  
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UPPER AIR DATA  
2780030382  
JALLEN  
TABLE XI. (CONT)

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
79000.0	29.8	-53.6			47.3	577.2		278.3	3.7	1.000011
79500.0	29.1	-53.3			46.1	577.6		258.7	11.1	1.000010
80000.0	28.4	-53.0			45.0	578.0		252.7	12.7	1.000010
80500.0	27.8	-52.7			43.9	578.4		248.0	14.3	1.000010
81000.0	27.1	-52.4			42.8	578.8		244.4	16.0	1.000010
81500.0	26.5	-52.1			41.7	579.2		97.3	10.9	1.000009
82000.0	25.9	-51.8			40.7	579.6		82.5	40.3	1.000009
82500.0	25.3	-51.5			39.7	580.0		80.3	70.1	1.000009
83000.0	24.7	-51.2			38.7	580.4		80.1	84.2	1.000009
83500.0	24.1	-50.9			37.8	580.8		80.9	82.4	1.000008
84000.0	23.5	-50.6			36.8	581.2		81.7	80.7	1.000008
84500.0	23.0	-50.3			35.9	581.6		82.7	76.8	1.000008
85000.0	22.4	-50.0			35.0	582.0		85.6	53.1	1.000008
85500.0	21.9	-49.7			34.2	582.4		93.2	29.7	1.000008
86000.0	21.4	-49.4			33.3	582.8		138.7	9.8	1.000007
86500.0	20.9	-49.1			32.5	583.2		213.7	14.4	1.000007
87000.0	20.4	-48.8			31.7	583.6		227.9	23.9	1.000007
87500.0	20.0	-48.5			30.9	583.9		233.9	34.1	1.000007
88000.0	19.5	-48.3			30.2	584.2		236.7	43.6	1.000007
88500.0	19.0	-48.1			29.5	584.4		237.3	49.4	1.000007
89000.0	18.6	-47.9			28.8	584.7		237.7	55.2	1.000006
89500.0	18.2	-47.7			28.1	584.9		238.1	61.1	1.000006
90000.0	17.8	-47.5			27.4	585.2		230.5	41.3	1.000006
90500.0	17.4	-47.4			26.8	585.4		180.9	16.2	1.000006
91000.0	17.0	-47.2			26.1	585.6		100.9	32.0	1.000006
91500.0	16.6	-47.0			25.5	585.9		87.1	58.3	1.000006
92000.0	16.2	-46.8			24.9	586.1		83.7	63.0	1.000006
92500.0	15.8	-46.6			24.3	586.4		80.8	67.8	1.000005
93000.0	15.5	-46.4			23.7	586.6		78.2	72.8	1.000005
93500.0	15.1	-46.2			23.2	586.9				1.000005

STATION ALTITUDE 4051.00 FEET MSL  
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 TABLE XI. (CONT)

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					DIRECTION DEGREES(TN)	SPEED KNOTS	
94000.0	14.8	-46.0			22.6	587.1				1.000005
94500.0	14.4	-45.9			22.1	587.3				1.000005
95000.0	14.1	-45.7			21.6	587.6				1.000005



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MANDATORY LEVELS  
2780030382  
JALLEN  
TABLE XII.

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5053.	19.5	11.3	59.	60.4	.5
800.0	6754.	15.4	10.4	72.	355.9	3.8
750.0	8549.	14.1	5.2	55.	4.5	8.3
700.0	10447.	9.7	.1	51.	332.2	6.1
650.0	12456.	6.6	-8.0	34.	285.6	4.5
600.0	14597.	2.8	-14.1	28.	292.9	2.7
550.0	16887.	-2.1	-13.6	41.	241.5	8.0
500.0	19349.	-7.4	-14.9	55.	258.9	17.7
450.0	22020.	-12.4	-33.1	16.	267.3	15.1
400.0	24934.	-18.9	-42.8	10.	255.0	24.8
350.0	28154.	-25.6	-48.1	10.	246.9	41.1
300.0	31763.	-33.2			249.1	50.2
250.0	35893.	-41.7			248.6	69.8
200.0	40736.	-52.9			248.8	70.9
175.0	43525.	-58.7			254.9	78.3
150.0	46652.	-65.4			257.1	80.3
125.0	50243.	-71.0			260.9	59.1
100.0	54583.	-72.0			269.3	33.9
80.0	58931.	-68.7			278.1	19.2
70.0	61567.	-66.8			267.5	11.6
60.0	64660.	-61.9			87.8	7.5
50.0	68412.	-56.1			255.7	18.4
40.0	73078.	-55.1			283.0	9.5
30.0	79126.	-53.7			259.7	10.9
25.0	82991.	-51.4			80.6	83.1
20.0	87778.	-48.5			236.9	45.3
15.0	94021.	-46.2				

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.